

SHIPPING PAPERS (172.203 (d))

Shipping description for all hazardous materials must include:

- Proper Shipping Name
 - Hazard Class
 - ID number
 - Packing Group (as appropriate)
 - Total quantity by weight or volume
- Additional requirements for RAM (unless excepted)

After Proper Shipping Name, Hazard Class, ID number

- Radioactive material (if not in PSN)
- Name of radionuclide(s)
- Physical and chemical form (if not in special form)
- Activity per pkg (Bq, MBq, etc.)
- Transport Index (Yellow II and III labeled packages only)
- Highway Route Controlled Quantity (if appropriate)
- Label(s) applied
- For Fissile Shipments
 - "Fissile excepted" or
 - For Fissile material, controlled shipments, Warning notation in 172.203 (d) (7) (ii)
- For DOE or NRC approved packages, a notation of the pkg identification marking
- LSA or SCO notation
- Exclusive use notation

If Hazardous Substance:

"RQ" before or after basic description (see also 172.203(c))

If under DOT exemption, indicate "DOT-E" followed by exemption number

See 172.203 for additional requirements including those for shipments by rail and air, and for poisonous and dangerous when wet materials.

MARKING 172.310

For materials not excepted from marking requirements:

Non-bulk packages must be marked with:

- Proper shipping name
- ID Number
- Inhalation hazard (as appropriate)
- Waste marking in 40 CFR 262.32 (as appropriate)
- RQ (as appropriate, see 172.324)

Radioactive Material packages must additionally be marked:

- gross wt. (if > 50 kg (110 lbs.))
- Type A or Type B
- USA (if destined for export)
- Trefoil symbol (Type B only)

BULK packaged shipments may require ID markings on orange panels or on a white, square-on-point display configuration.

See 172.326 - 332 and 172.334 and 172.336

LABELING 172.403



Radioactive White I Label
Surface Radiation level ≤ 0.5 mrem/hr.
T.I. = 0 (0.0 - 0.05)



Radioactive Yellow II Label
Surface Radiation level > 0.5, but ≤ 50 mrem/hr.
T.I. > 0, but ≤ 1.0



***Radioactive Yellow III Label**
Surface Radiation level > 50 mrem/hr, but ≤ 1000 mrem/hr.
T.I. > 1.0

* For surface radiation levels > 200 mrem/hr, and/or T.I. > 10 package must be shipped under exclusive use provisions.

* Any highway route controlled quantity must be labeled as Radioactive Yellow III

NOTE: Radioactive Materials packaging meeting additional DOT hazard classes must be labeled for the additional hazard(s).



EMPTY label required for empty packages meeting the requirements of 173.428(d).

CONTAMINATION LEVELS (173.443)

*Table values for non-fixed external contamination-wipe limits.

TABLE 11 LIMITS*

Contaminant	Maximum permissible limits		
	Bq/cm ²	u Ci/cm ²	dpm/cm ²
Beta and gamma and low toxicity alpha emitters	0.4	10 ⁻⁵	22
All other alpha emitting radionuclides	0.04	10 ⁻⁶	2.2

Notes:

If shipping by exclusive use by highway or rail, shipment must begin < Table limits; shipment may end at < 10x Table limits.

See 173.443(c) for requirements for returning vehicle to service. Shipments may be made exceeding Table 11 limits, if in compliance with 173.443(d).

PLACARDING 172.500

Required for:

- Any Package bears a Radioactive Yellow III label
- LSA and SCO shipment made under exclusive use provisions in 173.427 (c)
- Highway Route Controlled Quantity (by rail)
- ◀ Required for highway route controlled quantity (by highway)



◀ Required for Uranium Hexafluoride shipments equal to or greater than 1000 pounds gross weight.

RADIATION LEVELS (173.441)

MIXED LOAD

Pkg Surface T.I. 200 mrem/hr
10

EXCLUSIVE USE

Pkg surface 200 mrem/hr
Vehicle surface 200 mrem/hr
2 m from vehicle 10 mrem/hr
Occupied position 2 mrem/hr*

EXCLUSIVE USE AND CLOSED TRANSPORT VEHICLE

Pkg surface 1000 mrem/hr
Vehicle surface 200 mrem/hr
2 m from vehicle 10 mrem/hr
Occupied position 2 mrem/hr*

* Unless under Rad. Protection Program

